What is claimed is:

1. A method of estimating QoS in an IP network, comprising the steps of:

generating at least a first and second probing packet with an access router from at least one access point;

sending said first and second probing packets from said at least one access point over a fixed core network having a plurality of routers to a correspondent access router and then back to said at least one access router;

sending at least one collector packet to follow said first and second probing packets to gather at least one predetermined QoS parameter from said routers after said first and second probing packets leave said routers; and

processing said at least one QoS parameter with said at least one access router to determine a level of QoS experienced by said at least one access router.

2. The method of claim 1, wherein said at least one collector packet comprises a forward collector packet for gathering said at least one QoS parameter from said routers while said first and second probing packets are traveling from said at least one access router to said correspondent access router.

3. The method of claim 1, wherein said at least one collector packet comprises a reverse collector packet for gathering said at least one QoS parameter from said routers while said first and second probing packets are traveling from said correspondent access router to said at least one access router.

4. The method of claim 1, further comprising the step of recording a packet queuing delay based on each said probing packet at each said router.

5. The method of claim 1, further comprising the step of recording a packet transmission time based on each said probing packet at each said router.

6. The method of claim 1, wherein said at least one QoS parameter comprises a cumulated sum of queuing delays experienced by said first and second probing packets at each respective router.

7. The method of claim 1, wherein said at least one QoS parameter comprises a transmission time of said first and second probing packets from said respective routers.

8. The method of claim 1, wherein said at least one QoS parameter comprise a cumulated sum of the current packet queuing delay experienced at said routers by said first and second probing packets.

9. The method of claim 1, wherein said first and second probing packets are formed having similar characteristics as voice traffic packets.

10. The method of claim 1, wherein said at least one QoS parameter is used to estimate one-way packet delay.

11. The method of claim 1, wherein said at least one QoS parameter is used to estimate available bandwidth.

12. The method of claim 1, wherein said at least one QoS parameter is used to estimate packet jitter.

13. The method of claim 1, further comprising the step of avoiding the gathering of said at least one QoS parameters by said collector packets for each router already visited by a first and second probing packet from another access router.

14. A method of estimating QoS in an IP network, comprising the steps of:

sending a first and second probing packet across a fixed core network from a plurality of candidate access routers to a correspondent access router;

sending a forward collector packet that follows said first and second probing packet across said fixed core network to said correspondent access router, wherein said forward collector packet collects a predetermined set of parameters from said routers;

sending said first and second probing packet and said forward collector packet back to said originating access router from said correspondent access router;

sending a reverse collector packet that follows said first and second probing packet across said fixed core network to said originating access router from said correspondent access router, wherein said reverse collector packet collects a second predetermined set of parameters from said routers; and

processing the first and second predetermined set of parameters from said forward and reverse collector packets to determine a level of QoS experienced by said candidate access router.

15. The method of claim 14, further comprising the step of recording a packet queuing delay at each said router.

16. The method of claim 14, further comprising the step of recording a packet transmission time at each said router.

17. The method of claim 14, wherein said first and second predetermined set of parameters include a cumulated sum of queuing delays experienced by said first and second probing packets at each said respective router.

18. The method of claim 14, wherein said first and second predetermined set of parameters include a transmission time of said first and second probing packets from each said respective router.

19. The method of claim 14, wherein said first and second predetermined set of parameters include a cumulated sum of the current packet queuing delay at said routers.

20. The method of claim 14, wherein said first and second probing packets are formed with the same characteristics as voice traffic packets.

21. The method of claim 14, wherein said first and second predetermined set of parameters are used to estimate one-way packet delay.

22. The method of claim 14, wherein said first and second predetermined set of parameters are used to estimate available bandwidth.

23. The method of claim 14, wherein said first and second predetermined set of parameters are used to estimate packet jitter.

24. The method of claim 14, further comprising the step of avoiding the gathering of said first predetermined set of parameters for routers already visited by a first and second probing packet from another access router.

25. The method of claim 14, further comprising the step of avoiding the gathering of said second predetermined set of parameters for routers already visited by a first and second probing packet from another access router.

26. A method of estimating QoS for making a handoff trigger decision for a remote terminal in a wireless IP network, comprising the steps of:

generating at least a first and second probing packet with an access router from a plurality of access points;

sending said first and second probing packets from said access points over a fixed core network having a plurality of routers to a correspondent access router and then back to said access routers;

sending at least one collector packet to follow said first and second probing packets to gather at least one predetermined QoS parameter from said routers after said first and second probing packets leave said routers; and

processing said at least one QoS parameter with said access routers to make said handoff trigger decision.

27. The method of claim 26, further comprising the step of considering at least one layer two QoS parameter from said access point to said remote terminal when making said handoff trigger decision.

28. The method of claim 27, wherein each said access point not having a signal strength for a wireless hop above an acceptable predetermined threshold is removed from consideration when making said handoff trigger decision.

29. The method of claim 27, wherein said layer two QoS parameters may be selected from a group of parameters consisting of Bit Error Rate (BER), Frame Error Rate (FER),-Signal-to-Noise Ratio (SNR), Carrier-to-Interference ratio (C/I), received wireless signal power, throughput in bits/sec (average, peak, minimum), goodput in bits/sec (average, peak, minimum), frame loss ratio, frame latency, and frame latency variation.

30. The method of claim 26, wherein said at least one collector packet comprises a forward collector packet for gathering said at least one QoS parameter from said routers while said first and second probing packets are traveling from said access router to said correspondent access router.

31. The method of claim 26, wherein said at least one collector packet comprises a reverse collector packet for gathering said at least one QoS parameter from said routers while said first and second probing packets are traveling from said correspondent access router to said access router.

32. The method of claim 26, further comprising the step of recording a packet queuing delay based on each said probing packet at each said router.

33. The method of claim 26, further comprising the step of recording a packet transmission time based on each said probing packet at each said router.

34. The method of claim 26, wherein said at least one QoS parameter comprises a cumulated sum of queuing delays experienced by said first and second probing packets at each respective router.

35. The method of claim 26, wherein said at least one QoS parameter comprises a transmission time of said first and second probing packets from said respective routers.

36. The method of claim 26, wherein said at least one QoS parameter comprise a cumulated sum of the current packet queuing delay experienced at said routers by said first and second probing packets.

37. The method of claim 26, wherein said first and second probing packets are formed having similar characteristics as voice traffic packets.

38. The method of claim 26, wherein said at least one QoS parameter is used to estimate one-way packet delay to form a basis for said handoff trigger decision.

39. The method of claim 26, wherein said at least one QoS parameter is used to estimate available bandwidth to form a basis for said handoff trigger decision.

40. The method of claim 26, wherein said at least one QoS parameter is used to estimate packet jitter to form a basis for said handoff trigger decision.

41. The method of claim 26, further comprising the step of avoiding the gathering of said at least one QoS parameters by said collector packets for each router already visited by said first and second probing packet from another access router.

42. A method of estimating QoS for making a handoff trigger decision for a remote terminal in a wireless IP network, comprising the steps of:

sending a first and second probing packet across a fixed core network from a plurality of candidate access routers to a correspondent access router;

sending a forward collector packet that follows said first and second probing packet across said fixed core network to said correspondent access router, wherein said forward collector packet collects a predetermined set of parameters from said routers;

sending said first and second probing packet and said forward collector packet back to said originating access router from said correspondent access router;

sending a reverse collector packet that follows said first and second probing packet across said fixed core network to said originating access router from said correspondent access router, wherein said reverse collector packet collects a second predetermined set of parameters from said routers; and

processing the first and second predetermined set of parameters from said forward and reverse collector packets to make a handoff trigger decision.

43. The method of claim 42, further comprising the step of recording a packet queuing delay at each said router.

44. The method of claim 42, further comprising the step of recording a packet transmission time at each said router.

45. The method of claim 42, wherein said first and second predetermined set of parameters include a cumulated sum of queuing delays experienced by said first and second probing packets at each said respective router.

46. The method of claim 42, wherein said first and second predetermined set of parameters include a transmission time of said first and second probing packets from each said respective router.

47. The method of claim 42, wherein said first and second predetermined set of parameters include a cumulated sum of the current packet queuing delay at said routers.

48. The method of claim 42, wherein said first and second probing packets are formed with the same characteristics as voice traffic packets.

49. The method of claim 42, wherein said first and second predetermined set of parameters are used to estimate one-way packet delay.

50. The method of claim 42, wherein said first and second predetermined set of parameters are used to estimate available bandwidth.

51. The method of claim 42, wherein said first and second predetermined set of parameters are used to estimate packet jitter.

52. The method of claim 42, further comprising the step of avoiding the gathering of said first predetermined set of parameters for routers already visited by a first and second probing packet from another access router.

53. The method of claim 42, further comprising the step of avoiding the gathering of said second predetermined set of parameters for routers already visited by a first and second probing packet from another access router.